

Canada

Climate-Resilient Buildings and Core Public Infrastructure Initiative



TYPE OF TOOL
*Methodology/
Guidelines/
Requirements*



MAIN SECTORS
Construction



THEME
Resilience



INFRASTRUCTURE GOVERNANCE PILLARS
Asset performance throughout its life

In a nutshell



OBJECTIVE: The Climate-Resilient Buildings and Core Public Infrastructure Initiative aims to advance the field of climate change adaptation for buildings and infrastructure. The initiative translated science into decision support tools and guidance to inform national codes and standards, and to increase the climate resilience of Canada's construction sector.



Agency in charge
National Research Council of Canada



Levels of government
Federal



Years of implementation
2016 - 2021



Current status
Completed

Overview

To ensure that infrastructure continues to support the health, safety, and prosperity of Canadians in current and future climates, it is essential that both new and existing assets be designed and adapted to withstand extreme weather events and the impacts of global warming. With \$42.5 million in funding from Infrastructure Canada, from 2016 to 2021, the National Research Council of Canada (NRC) undertook the Climate-Resilient Buildings and Core Public Infrastructure Initiative to perform foundational research and provide knowledge to inform the integration of climate resilience into building and infrastructure design, standards, guides, and codes. The outputs and deliverables of the initiative that improved the resilience of infrastructure and buildings included:

- A broad suite of data, guides, codes, and standards, including future-looking climatic design data for over 660 locations across Canada;
- Several new National Standards of Canada, including a pioneering standard on climate-resilient roofs, two standards on bioretention systems, and the revision of the Canadian Standards Association Guideline on Durability in Buildings into a standard;
- Updates to the 2019 edition of the Canadian Highway Bridge Design Code and over 50 proposals for changes to the Canadian Electrical Code; and
- Publication of the first ever National Guide for Wildland-Urban Interface Fires.

This five-year initiative has successfully driven innovation and provided partners with the science-based knowledge and tools needed to make sound decisions on the design, operation, and maintenance of infrastructure assets. The follow-up Climate Resilient Built Environment Initiative (2021 – 2026), led by the NRC and funded by Infrastructure Canada, is building on these results to further develop, mobilize and disseminate the tools, knowledge, and capacity to improve the resilience of Canada's infrastructure and buildings, and to enable a culture of resilience to climate change and extreme weather events in Canada's construction sector.

REFERENCES:

- National Research Council of Canada (2023), *Our research on climate resilient buildings and infrastructure*, <https://nrc.canada.ca/en/research-development/research-collaboration/our-research-climate-resilient-buildings-infrastructure>